

PP-D-43

EUGLYCEMIC DIABETIC KETOACIDOSIS IN AN UNTREATED BREAST CANCER PATIENT WITH SPONTANEOUS TUMOR LYSIS SYNDROME

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CASE

A 55-year-old Filipino female with diabetes and newly diagnosed breast cancer presented with euglycemic diabetic ketoacidosis after developing spontaneous tumor lysis syndrome (TLS).

The patient was recently diagnosed with invasive ductal breast carcinoma. She has uncontrolled T2DM, maintained on insulin glargine, sitagliptin+metformin and dapagliflozin+metformin.

She presented with nausea, vomiting, anorexia, epigastric pain, generalized weakness and shortness of breath.

She was awake and oriented but tachycardic with Kussmaul breathing. She was clinically dry with no urine output. RBS was 93 mg/dL. ABG revealed metabolic acidosis with ketonemia; hence, she was treated as euglycemic DKA. Dextrose-containing intravenous fluids together with insulin drip were started. Further workup showed elevated LDH 385 U/L, hypocalcemia 1.11 mmol/L, hyperphosphatemia 22.7 mg/dL, hyperuricemia 18.5 mg/dL, hyperkalemia 6.2 mmol/L, elevated creatinine 13.10 mg/dL. Acute kidney injury secondary to TLS was considered; hence, combined daily sessions of hemodialysis/hemoperfusion were started. Repeat laboratory examinations showed significant improvement after the third session. Euglycemic DKA resolved after 24 hours. She was later offered anti-HER2-positive chemotherapy.

KEYWORDS

diabetes mellitus, spontaneous tumor lysis syndrome, diabetic Ketoacidosis, DKA

PP-D-44

PREVALENCE OF VITAMIN B12 DEFICIENCY IN PATIENTS WITH DIABETES ON LONG-TERM USE OF METFORMIN

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INTRODUCTION

Metformin is one of the first-line medications for diabetes. Previous studies found a correlation between long-term use of metformin and vitamin B12 deficiency. Thus, patients treated with metformin are recommended to undergo periodic testing for vitamin B12 levels by the American Diabetes Association. There are few studies about the prevalence of metformin-associated vitamin B12 deficiency in Thailand. This study aims to determine the prevalence and associated factors of vitamin B12 deficiency among patients with diabetes in one tertiary care Hospital in Thailand.

METHODOLOGY

This is a cross-sectional study. Data were collected from patients with diabetes from 31st March 2018 to 30th August 2020 at the outpatient department of Phramongkutklao Hospital. Twelve-hour fasting blood samples were tested for vitamin B12 level, and the cut-off point for diagnosis of B12 deficiency is less than 200 pg/mL. Factors associated with vitamin B12 deficiency were determined.

RESULTS

All 184 participants met the criteria, and almost 60% were male. The median duration of diabetes was 8 (4, 13) years. The average dose of metformin was 1352.7 ± 645.1 mg/day. Sixty-four patients took vitamin B supplements before the blood test for vitamin B12 levels. There were seven participants (3.8%) diagnosed with metformin-associated with vitamin B12 deficiency. Results showed vitamin B12-deficient patients took 2050 ± 755.5 mg of metformin per day compared to 1325.1 ± 627.1 mg/day (p 0.003) of metformin in those with normal vitamin B12 levels. In addition, age and metformin dosage were associated with vitamin B12 deficiency with adjusted odds ratio of 1.1 (1.0-1.3) and 1.1 (1.0-1.2), respectively.

CONCLUSION

The prevalence of metformin-associated vitamin B12 deficiency is less than 5% in Phramongkutklao Hospital. We suggest against routinely checking for vitamin B12 levels in patients with diabetes who are currently on metformin unless there are clinical indications of deficiency.

KEYWORDS

metformin, diabetes mellitus, vitamin B12 deficiency